Geoevents, Geological Heritage, and the Role of the IGCP

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ABSTRACT BOOK
LIBRO DE RESUMENES

Geoevents, Geological Heritage, and the Role of the IGCP (Marcos A. Lamolda et al., eds.)
Caravaca de la Cruz, 15th – 18th September, 2010

THE NATIONAL INVENTORY OF GEOSITES IN PORTUGAL

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During the last three years, geoscientists of various institutions have developed a project towards the setting up of a geoconservation strategy in Portugal (Brilha, 2009). One of the main goals of the project was the establishment of an inventory of the most important Portuguese geosites, under the scientific point of view. In a near future, national authorities will consider this inventory as a technical support for the implementation of nature conservation policies and land-use strategies.

The first task concerning the inventory was concluded with the definition of the frameworks representing the most important geological features in Portugal and covering the different types of geoheritage, like palaeontological, petrological, geomorphological, tectonic or stratigraphic heritage (table 1; Brilha et al., 2008, 2009). Twenty-seven frameworks are now defined, according to their scientific value, at both national and international levels, resulting from a discussion forum within the project members. The geological frameworks with international relevance defined in a previous work (Brilha et al., 2005) have been reconsidered and included in this approach.

Presently, three hundred and twenty-six geosites of national and/or international relevance were identified and selected (table 1) by a working group constituted by more than seventy experts in different Geosciences' domains. The submission of geosites to the inventory was made using a simplified characterization form, which includes useful geographical and geoheritage data. The selection of geosites was based on the assessment of their scientific value. This scientific value, together with an estimation of their vulnerability, was quantitatively assessed in order to obtain a sorted list of all geosites sustained on these two criteria. In a final stage this list will be uploaded to the national database of natural heritage and will support protection policies under the national agency for nature conservation responsibility (Institute for Nature Conservation and Biodiversity).

Table 1. Number of geosites with national and/or international relevance and their corresponding geological frameworks. This table presents an overall perspective of the Portuguese geological heritage, but minor final adjustments are still in progress.

Geological framework		Main geological relevance(s)	Geosites
#01	Neoproterozoic-Cambrian Metasediments in Central-Iberian Zone	Stratigraphy; Petrology	11
#02	Palaeozoic Marbles of the Ossa-Morena Zone	Petrology	7
#03	Ordovician of Central Iberian Zone	Stratigraphy; Palaeontology	18
#04	Paleozoic succession of the Barrancos region	Palaeontology; Stratigraphy	8
#05	Exotic Terranes of NE Portugal	Petrology; Tectonics	7
#06	Geotraverse of the Portuguese Variscan Fold Belt	Tectonics; Stratigraphy	10
#07	Geology and metallogenesis of Iberian Pyrite Belt	Mineralogy; Petrology	7
#08	Marine Carboniferous of the South Portuguese Zone	Stratigraphy; Petrology	3
#09	Continental Carboniferous	Stratigraphy; Petrology	3
#10	Pre-Mesozoic granitoids	Petrology	6
#11	The Iberian W-Sn Metallogenic Province	Mineralogy	4
#12	Gold mineralisation in Northern Portugal	Mineralogy	8
#13	Meso-Cenozoic tectonic evolution of the Western Iberian Margin	Tectonics; Stratigraphy	15
#14	Late Triassic SW Iberian rupture of the Pangea	Stratigraphy; Petrology	4
#15	Jurassic record in the Lusitanian Basin	Stratigraphy; Palaeontology	6
#16	Cretaceous rocks of the Lusitanian Basin	Stratigraphy	3
#17	Dinosaur footprints of western Iberia	Palaeontology	6
#18	Meso-Cenozoic of the Algarve	Stratigraphy	16
#19	Cenozoic basins of the Western Iberian Margin	Stratigraphy; Palaeontology	4
#20	Landforms and river network of the Portuguese Iberian Massif	Geomorphology	38
#21	Karst systems of Portugal	Geomorphology; Hydrogeology	38
#22	Active and fossil coastal cliffs	Geomorphology	4
#23	Low coasts	Geomorphology	4
#24	Neotectonics in mainland Portugal	Tectonics; Geomorphology	30
#25	Glacial and periglacial landforms and sediments	Geomorphology	16
#26	Volcanism of The Azores Archipelago	Volcanism; Geomorphology	30
#27	Volcanism of The Madeira Archipelago	Volcanism; Geomorphology	20
		Total	***326***

This inventory will, in the future, include geosites of regional and local relevance, in order to become the most complete and updated catalogue of the Portuguese geological heritage.

It is also expected that this work will contribute to create an increasing public awareness on geological heritage, as an important natural resource with major strategic importance.

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